

**Claims**

1. Solid oxide fuel cell with a planar support in form of a porous plate structure supporting on one planar surface a layer of electrode active material and with internally elongated gas supply channels formed inside the structure.
2. Solid oxide fuel cell of claim 1, wherein a planar surface on opposite side to the surface supporting electrode active material being provided with a dense layer of gas impermeable and electronic conductive material.
3. Solid oxide fuel cell of claim 2, wherein the dense layer is a ceramic and/or metallic layer.
4. Solid oxide fuel cell of claim 1, wherein the electrode layer is active in electrochemical anode reactions and wherein the layer is covered by a further dense layer of electrolyte material.
5. Solid oxide fuel cell of claim 1, wherein the porous plate is made from ferritic stainless steel, nickel-based alloys and/or high chromium alloys.
6. Solid oxide fuel cell of claim 1, wherein rim of the porous plate is gas impermeable.
7. Solid oxide fuel cell of claim 1, wherein rim of the porous plate is supporting a dense layer of electrolyte material.

8. Solid oxide fuel cell of claim 1, wherein the porous structure is catalytic active in conversion of feed gas to fuel cell reactant gas.

5 9. Use of a solid oxide fuel cell according to any-one of the preceding claims in generation of power from particulate matter containing gas.

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